



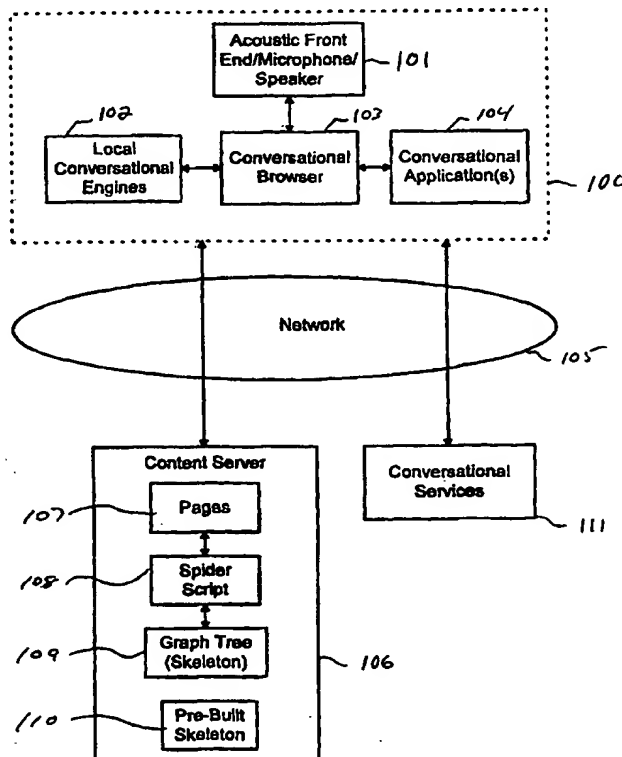
## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(21) International Application Number: PCT/US99/22915 (22) International Filing Date: 1 October 1999 (01.10.99) (30) Priority Data: 60/102,957      2 October 1998 (02.10.98)      US 60/117,595      27 January 1999 (27.01.99)      US (71) Applicant (for all designated States except US): INTERNATIONAL BUSINESS MACHINES CORPORATION [US/US]; Old Orchard Road, Armonk, NY 10504 (US). (72) Inventor; and (75) Inventor/Applicant (for US only): MAES, Stephane, H. [BE/US]; 1 Wintergreen Hill Road, Danbury, CT 06811 (US). (74) Agent: OTTERSTEDT, Paul, J.; Yorktown IP Law Department, International Business Machines Corporation, T.J. Watson Research Center, Route 134 and Kitchawan Road, Yorktown Heights, NY 10598 (US).		(81) Designated States: CA, CN, IL, IN, JP, KR, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.	

(54) Title: STRUCTURE SKELETONS FOR EFFICIENT VOICE NAVIGATION THROUGH GENERIC HIERARCHICAL OBJECTS

## (57) Abstract

A system and method for providing fast and efficient conversation navigation via a hierarchical structure (structure skeleton) which fully describes functions and services supported by a dialog (conversational) system. In one aspect, a conversational system and method is provided to pre-load dialog menus and target addresses to their associated dialog managing procedures in order to handle multiple or complex modes, contexts or applications. For instance, a content server (web site) (106) can download a skeleton or tree structure (109) describing the content (page)(107) or service provided by the server (106) when the client (100) connects to the server (106). The skeleton is hidden (not spoken) to the user but the user can advance to a page of interest, or to a particular dialog service, by uttering a voice command which is recognized by the conversational system reacting appropriately (as per the user's command) using the information contained within the skeleton. The skeleton (109) provides the necessary information to allow a user to quickly browse through multiple pages, dialog components, or NLU dialog forms to find information of interest without having to follow and listen to every possible page or form leading to a desired service or conversational transaction.



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# INTERNATIONAL SEARCH REPORT

International application No.  
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## A. CLASSIFICATION OF SUBJECT MATTER

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US CL :704/270,275

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 704/270,275

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

IEEE DATABASE, WEST

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,721,827 A [LOGAN et al] 24 February 1998, Fig. 1-3,7;col. 1 lines 45-65; col. 4 lines 15-57; col. 6 lines 35-45;	1-26
X	US 5,742,845 A [WAGNER] 21 April 1998, Figs. 12-13, col. 10 line 52 - col. 14 line 30;col. 16 line 41 - col. 17 line 18	1-26
X	US 5,819,092 A [FERGUSON et al] 06 October 1998, Figs. 1-3, 10; col. 6 line 50 - col. 7 line 58	1-26



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